

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



U. S. Department of Energy

National Energy Technology Laboratory

Solid-State Lighting Core Technologies

Funding Opportunity Number: DE-PS26-06NT42831

Announcement Type: Initial

CFDA Number: 81.087 Renewable Energy Research and Development

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Letter of Intent Due Date:	Not Applicable
Pre-Application Due Date:	Not Applicable
Application Due Date:	06/27/2006 at 8:00 PM Eastern Time

NOTE: NEW REQUIREMENTS FOR GRANTS.GOV

Where to Submit

Applications must be submitted through Grants.gov to be considered for award.

Registration Requirements

There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See <http://www.grants.gov/GetStarted>. Use the Grants.gov Organization Registration Checklist at <http://www.grants.gov/assets/OrganizationRegCheck.doc> to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 14 days to complete these requirements. It is suggested that the process be started as soon as possible.

Questions

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VII of this announcement explains how to submit other questions to the Department of Energy (DOE).

Application Receipt Notices

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of four e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to two (2) business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 4. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the four e-mails are:

Number 1 - Grants.gov Submission Receipt Number

Number 2 - Grants.gov Submission Validation Receipt for Application Number

Number 3 - Grants.gov Grantor Agency Retrieval Receipt for Application Number

Number 4 - Grants.gov Agency Tracking Number Assignment for Application Number

VERY IMPORTANT – Download PureEdge Viewer

In order to download the application package, you will need to install PureEdge Viewer. This small, free program will allow you to access, complete, and submit applications electronically and securely. For a free version of the software, visit the following web site: <http://www.grants.gov/DownloadViewer>.

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PART I – FUNDING OPPORTUNITY DESCRIPTION

A. SUMMARY

Solid-State Lighting

Goal: By 2025, develop advanced solid-state lighting technologies that compared to conventional lighting technologies, are much more energy efficient, longer lasting, and cost competitive by targeting a product system efficiency of 50 percent with lighting that accurately reproduces sunlight spectrum.

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's (EERE) Building Technologies (BT) Program, is seeking applications for applied research in the Solid-State Lighting (SSL) Core¹ Technologies Program.

DOE has set aggressive and ambitious goals for SSL Research and Development (R&D): By 2025, to develop advanced solid-state lighting technologies that, compared to conventional lighting technologies, are much more energy efficient, longer lasting, and cost-competitive. The focus of

this Funding Opportunity Announcement, herein referred to as Announcement, is to support applied research in certain key technical areas by fostering a collaborative atmosphere favorable to overcoming the significant technical challenges that restrict the application of SSL today to only relatively low luminous output products.

While the current generation of SSL products is commercially viable, they are most often used in markets that do not produce the large energy conservation objectives sought by DOE. Moreover, the technical challenges that impede penetration into mainstream general illumination markets are complex and require the combined resources of many researchers and perhaps, the unique research tools found only at a limited number of universities, National Laboratories and research institutions. It may be difficult to overcome these critical technical challenges without a focused Government initiative. Partly, this is because this research may be judged too risky for industry to undertake alone. Thus, the collaborations sought under this Announcement will "buy down" or reduce the level of technical risk by providing significant financial resources.

An accompanying product funding opportunity announcement, to follow this announcement, will solicit applications from interested companies (or teams of companies) for product development, demonstrations, and market conditioning. Product applications will systematically use the knowledge gained from basic or applied research to develop or improve commercially viable materials, devices, or systems.

B. BACKGROUND INFORMATION

The lighting industry is nearly 100 years old and is often characterized as a mature industry. The DOE's BT Program selected lighting as one of the principle target markets for the development of more efficient technologies since it represents one-fifth of the national electrical consumption. The DOE has provided assistance over the past several years with significant effort invested by industry, academia and Government; the prevailing theme that has surfaced repeatedly is that the promise of solid-state lighting will only be produced through a focused and concentrated effort

Electricity consumed for lighting represents about 8.2 Quads or nearly 8.5 % of all the primary energy consumed annually by the Nation. Lighting also consumes 22% of all electricity in buildings.

¹ Definition of Core research can be found at www.netl.doe.gov/ssl/definition.html

between the stakeholders.

Today, the lighting industry in North America is worth approximately \$12.7 Billion in sales annually. Of this amount, approximately \$3.3 Billion is associated with lamps while the remaining sales are divided up between fixtures, components (including ballasts and controls) and services such as design and maintenance. High brightness Light Emitting Diode (LED) sales, a popular product thought by many to be the nearest term solution to SSL, is a \$1 to \$2 Billion business with exponential growth prospects.

To address these issues and to advance energy conservation in lighting in US buildings, the DOE's BT Program maintains a Lighting Research and Development (LR&D) program. Key to achieving the objectives of this program is its mission statement.

Lighting Research and Development Program

Mission:

To increase end-use efficiency in buildings by aggressively researching new and evolving lighting technologies, in close collaboration with partners, to develop viable methodologies that have the technical potential to conserve 50% of electric lighting consumption by 2025.

To insure that its research portfolio meets critical and evolving needs in a timely fashion, the LR&D program has hosted and continues to host industry-led efforts to develop and maintain a series of technology road maps for the various technologies that comprise the lighting business. While not the only lighting technology of interest within the BT Program portfolio, SSL is the **singular** focus of this Announcement.

The SSL portfolio has developed a specific statement of objectives tailored to the aggressive needs suitable for general illumination applications. It targets aggressive performance goals that, if met and successfully deployed into the marketplace, will achieve the energy conservation goals of the LR&D program while meeting or exceeding the performance attributes of electric light that allows for direct comparison to natural sunlight spectra.

This Announcement is the third in a series of announcements that may span the next decade. As the relevant SSL technology base matures, it is anticipated that the level of technology maturation will advance from the present level, applied research, to market conditioning once the targets for efficiency, cost, longevity, stability and control are demonstrated in a product environment.

The DOE envisions a LR&D Program that works together with the SSL industry to meet the program's goal by the year 2025. Critical to this LR&D Program are seven important aspects:

- Emphasize Competition
- Cost (and Risk) Sharing
- Partners Involved in Planning and Funding
- Targeted Research for Focused Need
- Innovative Intellectual Property Provisions
- Open Information and Process
- Success Determined by Milestones Met and Ultimately Energy Efficient, Long-life and Cost-competitive Products Developed

In order to achieve these goals a partnership was awarded via Memorandum of Agreement (MOA) to the Next Generation Lighting Industry Alliance (NGLIA). The purpose of the NGLIA is to provide input and prioritization of the core technology needs, provide administrative expertise and staffing to organize and conduct technical meetings and workshops, and support

demonstrations of SSL technologies, among others.

Additionally, the SSL program has implemented innovative Intellectual Property provisions. This program has been granted an exceptional circumstances determination under the Bayh-Dole Act. The exceptional circumstances determination applies to awards under the Core Technologies Program and is expected to stimulate commercial utilization of new technology developed by Core awardees. This potentially benefits product participants by pushing the availability of the core technology to them. The Core Technology Program participants will also benefit by having a ready set of potential licensees to which to license their invention(s), and, if the SSL Partnership members are successful in commercializing their lighting systems, may reap income in the form of royalties. The determination also requires substantial manufacturing in the US of products embodying new inventions. More detailed information about the Exceptional Circumstances Determination can be found at: http://www.netl.doe.gov/ssl/PDFs/SSL%20Determination%20-%20Signed%20June%202005_1.pdf.

C. FUNDING OPPORTUNITY OBJECTIVES

The specific focus of this Announcement is to insure that the LR&D portfolio of SSL technology sufficiently addresses the Core Technologies that can be readily and widely applied to existing and future lighting products, which in turn will be energy efficient and cost competitive. It is in this collaborative atmosphere that applications are sought; applications that are truly innovative and groundbreaking, fill technology gaps, provide enabling knowledge or data, and will represent a significant advancement in the SSL technology base.

Core Technology research will provide the focused applied research needed to advance SSL technology – research that is typically longer-term in nature and not the focus of sustained industry investment.

D. PROGRAM AREAS OF INTEREST

The four Program Areas of Interest for this announcement were chosen based on research areas identified at the DOE SSL Workshop in February 2005, the recently released DOE Multi-Year Program Plan, and the status of the DOE project portfolio. The complete report from the 2005 DOE SSL Workshop and the recently released Multi-Year Program Plan are available at www.netl.doe.gov/ssl/. Additionally, information on the DOE SSL portfolio is available at www.netl.doe.gov/ssl/project.html. In response to these guidelines, the Program Areas of Interest were developed for this announcement. The Areas of Interest target innovations in both Light Emitting Diodes (LED) and Organic Light Emitting Diodes (OLED). Descriptive information on each of these four Areas of Interest is provided in the following paragraphs:

Light Emitting Diodes (LED)

The LED Areas of Interest address two components of device efficiency; Internal Quantum Efficiency (IQE) and Extraction Efficiency which are the two major limiting factors preventing higher performance LED devices. Improved device efficiency is the primary goal of research in the LED area, but cost and manufacturability should be addressed in the application as well. Applicants must demonstrate that the proposed work builds upon earlier research. In the LED area, applications should target only one Area of Interest, Internal Quantum Efficiency or Extraction Efficiency.

Area of Interest 1: **Internal Quantum Efficiency (IQE) – Task 1.1²**
(DE-PS26-06NT42831-01)

In order to meet the DOE luminous efficacy goals³ ahead of schedule, more research is required in the area of internal quantum efficiency (IQE) of LED devices. The DOE goal for IQE is 90% across the spectrum by 2025. Research in IQE benefits both color mixing and phosphor converted LED lighting solutions. Improvements in the IQE across the visible spectrum will improve the efficiency and color rendering for the color mixed approach. Whereas, enhancing the IQE in blue, violet, and ultra-violet spectrum will improve the efficiency for the phosphor converted approach.

Two distinct approaches will be considered for the improvement of IQE. The first approach is research in high efficiency semiconductor materials – Subtask 1.1.2 is one approach. Across the emission spectrum of nitrides the IQE is less than for LED emitters in the red and infrared. Deep green emitters, in particular, suffer from low IQE. Applications are sought that specifically address the improvement of IQE through the epitaxial process. This includes, but is not limited to, bandgap engineering of the active region, i.e., novel growth structures, quaternary materials, novel alloys, the use of nanostructures within the active region, and study/control of the role of indium in the active region. Successful applicants must address IQE improvements beyond the current levels in solid-state lighting. Preference will be given to projects that demonstrate the highest potential for improvement from current levels. Demonstrable and quantifiable improvements in the IQE are suggested milestones for this approach.

The second approach to improving IQE in LED is research in reliability and defect physics for improved emitter lifetime and efficiency – Subtask 1.1.3. The IQE of an LED is adversely affected by the crystal defects of the epitaxial material which decrease device lifetime and performance at high power. Applications are sought that address defect reduction and/or mitigation in the epitaxial process. This research includes, but is not limited to, novel growth structures, improved epitaxial growth processes, studies in defect and dopant physics, and studies in the mitigation of defects at high current operation of LEDs. Demonstrable and quantifiable reduction of defect density, reduction in device efficiency roll-off at high current operation, and improvement of IQE are suggested milestones for this approach.

Area of Interest 2: **Extraction Efficiency: Device approaches, structures, and systems and strategies for improved light extraction – Subtasks 1.2.1 and Subtask 1.2.2**
(DE-PS26-06NT42831-02)

Vast improvements have been made recently in the extraction efficiency of LEDs. Surface roughening, chip shaping, reflective coating, and device thinning, among other techniques, have been shown to enhance the light extraction from LED chips. However the next technological leap needs to be made in order to achieve the DOE goal of 90% extraction efficiency before 2025. To achieve this goal ahead of schedule a combination of device architecture techniques (subtask 1.2.1) and strategies for improved light extraction (subtask 1.2.2) will need to be employed. Applications are sought for research to improve the extraction efficiency of LEDs beyond the current state of the art. Applicants should propose to demonstrate improvements in device efficiency through advancements in light extraction efficiency and list these improvements as milestones.

² Tasks and subtasks are from www.netl.doe.gov/ssl/PDFs/DOE_SSL_Workshop_Report_Feb2005.pdf

³ DOE SSL goals can be found in the DOE SSL Multi-Year Program Plan at www.netl.doe.gov/ssl/

Organic Light Emitting Diodes (OLED)

There are two specific OLED Areas of Interest for this Announcement. Acceptable applications may propose research that addresses one or both of the OLED Areas of Interest.

Area of Interest 3: **Materials Research - High efficiency, low voltage, stable materials** –
Subtask 3.1.2
(DE-PS26-06NT42831-03)

This area of interest is seeking research in the development of high efficiency, low voltage, and stable OLED materials. Specifically, the DOE is looking for applied research in emitting materials that will efficiently emit light and show improvements in operating lifetime. One area of particular concern is the high operating voltage of OLEDs which limits device luminous efficacy. Improved carrier transport materials, blocking materials, materials that use integrated nano-structures, and inorganic-organic hybrid materials are all candidates for research under this materials topic. Improvements made in device efficacy should not come at the expense of device stability. Applications for research in materials that exhibit enhanced stability, particularly at high current operation, are also sought. The applications in this area should build upon prior research which will now be applied to the field of OLEDs for solid-state lighting. The suggested milestones of this research should be measurable improvements in device efficiency and improved device lifetimes.

Area of Interest 4: **Approaches to OLED structures between the electrodes for improved performance low-cost white-light devices** – *Subtask 3.2.2*
(DE-PS26-06NT42831-04)

In this area of interest, research is sought in optimized OLED device architecture for improved device performance of white light emitters. Applications are sought specifically for white OLED emitters. Device stability, operating voltage, and high luminance performance are potential topics of research in this area. While this technology is not currently at a level where device cost is a primary concern, applicants to this area should consider manufacturability and cost of fabrication in their application. Applications in Area of Interest 4 may be distinct from Area of Interest 3, focusing on novel device structures rather than materials development. The suggested milestones of this research are measurable improvements in device efficiency, high luminance performance, and improved device stability.

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT.

- DOE anticipates awarding cooperative agreements under this program announcement (See Section VI.B.2 Statement of Substantial Involvement)

B. ESTIMATED FUNDING.

- Approximately \$3.75 Million is expected to be available for new awards under this announcement.

C. MAXIMUM AND MINIMUM AWARD SIZE.

- Ceiling (i.e., the maximum amount for an individual award made under this announcement): None.
- Floor (i.e., the minimum amount for an individual award made under this announcement): None.

D. EXPECTED NUMBER OF AWARDS.

- DOE anticipates making 2-5 awards under this announcement depending on the size of the awards. However, the Government reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this announcement and will award that number of financial assistance instruments which serves the public purpose and is in the best interest of the Government.

E. ANTICIPATED AWARD SIZE.

- DOE anticipates that awards will not exceed \$600,000 (Federal Share) per year for up to 3 years.

F. PERIOD OF PERFORMANCE.

- DOE anticipates making awards that will range from twelve (12) months to thirty-six (36) months. Awards will have project and budget periods that are specific to the project and funding.

PART III - ELIGIBILITY INFORMATION

A. ELIGIBLE APPLICANTS.

- All types of applicants are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.

B. COST SHARING

- The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources. (See 10 CFR part 600 for the applicable cost sharing requirements.)

C. OTHER ELIGIBILITY REQUIREMENTS.

- **Federally Funded Research and Development Center (FFRDC) Contractors.** FFRDC applicants are not eligible for an award under this announcement, but they may be proposed as a team member subject to the following guidelines:

Authorization for non-DOE/NNSA FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector.

Authorization for DOE/NNSA FFRDCs. The cognizant contracting officer for the FFRDC must authorize in writing the use of a DOE/NNSA FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

“Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complimentary to the missions of the laboratory, will not adversely impact execution of the DOE/NNSA assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector.”

Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE/NNSA will fund a DOE/NNSA FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

Cost Share. The applicant's cost share requirement will be based on the total cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

FFRDC Contractor Effort:

- The FFRDC contractor effort, in aggregate, shall not exceed 10% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. ADDRESS TO REQUEST APPLICATION PACKAGE.

- Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov>, select “Apply for Grants,” and then select “Download Application Package.” Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. **NOTE:** You will not be able to download the Application Package unless you have installed PureEdge Viewer (See: <http://www.grants.gov/DownloadViewer>).

B. LETTER OF INTENT AND PRE-APPLICATION.

1. Letter of Intent.

- Letters of Intent are not required.

2. Pre-application.

- Pre-applications are not required.

C. CONTENT AND FORM OF APPLICATION – 424 (R&R)

You must **complete the mandatory forms and any applicable optional forms** (e.g., Disclosure of Lobbying Activities (SF-LLL)) in accordance with the instructions on the forms and the additional instructions below. Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.

1. **SF 424 (R&R).** Complete this form first to populate data in other forms. Complete all the required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the “Help Mode” (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 18 can be found on the Applicant and Recipient Page at <http://grants.pr.doe.gov>.

2. RESEARCH AND RELATED Other Project Information.

Complete questions 1 through 5 and attach files. The files must comply with the following instructions:

Project Summary/Abstract (Field 6 on the Form)

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the publication. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. To attach a Project Summary/Abstract, click “Add Attachment.”

Project Narrative (Field 7 on the Form)

The project narrative must not exceed **25 pages**, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right). **EVALUATORS WILL ONLY REVIEW THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE.** The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application, because the information contained in these sites will not be reviewed. See Part VIII.D for instructions on how to mark proprietary application information. To attach a Project Narrative, click "Add Attachment."

The project narrative must include:

- Project Objectives. This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.
- Merit Review Criterion Discussion. The section should be formatted to address each of the merit review criterion and sub-criterion listed in Part V. A. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria. **DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERION.**
- The project narrative should provide a clear description of the work to be undertaken and how it will be accomplished. To help facilitate the review process and to insure maximum consideration of the application's merit, the applicant should review the following elements when preparing the project narrative and must provide ALL of the specified information listed below. These elements relate to and are consistent with the technical evaluation criteria found in Part V of this announcement. Sufficient information is to be provided so that the reviewers will be able to evaluate the application in accordance with these elements.

1. Technical Approach

- 1.1. Provide a clear and concise statement of the scientific merits and likelihood of success of the proposed approach. Explain any areas of technical uncertainty and the basis for the approach selected.
- 1.2. Include a table of milestones for each interval of the proposed effort. Be quantitative and descriptive. Typically, projects contain one to four milestones which may be accomplished in no longer than 18 months. These milestones should relate to the determination of technical "value" as described in Criterion 2.
- 1.3. Provide a succinct Statement of Project Objectives (SOPO) as described below followed by an expanded discussion of the technical approach. Provide a discussion of anticipated outcomes and results.
- 1.4. Provide an innovative and novel technical approach to achieving the stated objectives. Do not duplicate or elaborate on previous or ongoing research unless a significant new or enabling development has occurred. For a list of previous and ongoing work, please refer to the SSL Portfolio at

<http://www.netl.doe.gov/ssl/project.html>.

2. Technology “Value”

- 2.1. Provide a discussion of how the proposed project and approach will impact the eventual achievement of the DOE SSL mission/goal as contained in Part I of this Announcement.
- 2.2. Compare the performance of the proposed approach to current SSL device technology in terms of efficiency and discuss the likelihood of exceeding current SSL performance levels.
- 2.3. Explain how the proposed approach is applicable to multiple SSL technologies or may impact other DOE energy efficiency objectives (crosscutting).
- 2.4. Provide calculations of estimated efficiency benefits compared to current SSL technology and conventional lighting technology, if applicable. Provide baseline information upon which efficiency calculations are based.
- 2.5. Explain how the proposed research will allow the DOE to achieve their SSL goals earlier than planned. Be quantitative and estimate the impact this achievement might have on cumulative lighting energy conservation.

3. Project Team Members’ Roles and Capabilities

- 3.1. Discuss the ability of the team to perform and achieve the objectives stated in the SOPO. This should include experience in similar projects resulting in successful technology development and commercialization or technology transfer to commercial product(s). Outline the roles and responsibilities of each team member with respect to the technical approach.
- 3.2. Discuss in detail the principal investigator's role and responsibilities in performing the objectives of the SOPO.
- 3.3. Provide a breakdown of key personnel to SOPO tasks (manpower matrix). The matrix should illustrate estimated labor hours and labor categories (e.g., project manager, principal investigator, etc.) required for each task and shall provide rolled-up total for each period. The same should also be included for any proposed subcontracting or consulting efforts. Discuss the rationale used to develop estimates for labor hours and categories, and subcontracting/consulting efforts. Cost information is not to be included in the technical proposal volume.
- 3.4. Discuss the availability of facilities and equipment. Identify any major equipment needed for the proposed project which will need to be acquired during the course of the project.

4. Previous or On-going Related Work

- 4.1. Describe any linkages to current Federal programs (i.e. DOE, DARPA, DOD, NIST, etc.) and any leverage that may be relevant. Demonstrate that the early SSL conceptions have already been pursued.
- 4.2. Explain any corporate commitments that demonstrate involvement in the SSL industry.

- Statement Of Project Objectives (SOPO):

DOE/NETL uses a specific format for the SOPO in its awards. In announcements such as this one, where the Government does not provide a SOPO, the Applicant is to provide one, which the DOE will then use to generate the SOPO to be included in the award.

The project narrative must contain a single, detailed SOPO that addresses how the project objectives will be met. The SOPO must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The SOPO may be released to the public by DOE in whole or in part at any time. It is therefore required that it shall not contain proprietary or confidential business information.

The SOPO is generally less than 3 to 4 pages in total for the proposed work. The SOPO is considered to be part of the Project Narrative and is therefore included in the 25 page limit. Applicants shall prepare the Statement of Project Objectives in the following format:

TITLE OF WORK TO BE PERFORMED

(Insert the title of work to be performed. Be concise and descriptive. Avoid non-descriptive terms in the title, such as 'novel' or 'innovative')

A. OBJECTIVES

Include one paragraph on the overall objective(s) of the work. Also, include objective(s) for each phase of the work.

B. SCOPE OF WORK

This section should not exceed one-half page and should summarize the effort and approach to achieve the objective(s) of the work for each Phase.

C. TASKS TO BE PERFORMED

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project. This section provides a brief summary of the planned approach to this project.

PHASE I

Task 1.0 - (Title)

(Description)

Subtask 1.1 (Optional)

(Description)

Task 2.0 - (Title)

PHASE II (Optional)

Task 3.0 - (Title)

D. CRITICAL PATH PROJECT MILESTONES (MILESTONE PLAN/STATUS)

As a part of the approved SOPO, the Recipient will develop a Milestone Plan that will serve as the baseline for tracking performance of the project and will identify critical path project milestones (no less than 2 per calendar year) for the entire project.

During project performance, the Recipient will report the Milestone Status as part of the required quarterly Progress Report as prescribed under Attachment 4, Reporting Requirements Checklist. The Milestone Status will present actual performance in comparison with Milestone Plan, and include:

- (1) the actual status and progress of the project,
- (2) specific progress made toward achieving the project's critical path milestones, and,
- (3) any proposed changes in the projects schedule required to complete critical path milestones.

E. DELIVERABLES

The periodic, topical, and final reports shall be submitted in accordance with the attached "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist.

[Note: The Recipient shall provide a list of deliverables other than those identified on the "Federal Assistance Reporting Checklist" that will be delivered. These reports shall also be identified within the text of the Statement of Project Objectives. See the following examples:

1. Task 1.1 - (Report Description)
2. Task 2.2 - (Report Description)

F. BRIEFINGS/TECHNICAL PRESENTATIONS (If applicable)

The Recipient shall prepare detailed briefings for presentation to the Project Officer at the Project Officer's facility located in Pittsburgh, PA or Morgantown, WV. Briefings shall be given by the Recipient to explain the plans, progress, and results of the technical effort.

The Recipient shall provide and present a technical paper(s) at the DOE/NETL Annual Contractor's Review Meeting to be held at the NETL facility located in Pittsburgh, PA or Morgantown, WV.

The Recipient shall provide and present a technical paper(s) at the DOE/NETL Peer Review Meeting to be held at DOE Headquarters in Washington D.C.; or other location specified by the DOE Project Officer.

(END OF STATEMENT OF PROJECT OBJECTIVES)

- ***Project Performance Site:***

Indicate the primary site where the work will be performed. If a portion of the work will be performed at any other sites, identify those sites, also.

- ***Biographical Sketch Appendix:***

Provide a biographical sketch for the project director/principal investigator (PD/PI) and each senior/key person listed in Section A on the R&R Budget form. Provide the biographical sketch information as an appendix to your project narrative. Do not attach a separate file. The biographical sketch appendix **will not** count in the project narrative page limitation. The biographical information for each person must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and must include:

Education and Training:

Undergraduate, graduate and postdoctoral training, provide institution, major/area, degree and year.

Research and Professional Experience:

Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

Publications.

Provide a list of up to 10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

Synergistic Activities.

List no more than 5 professional and scholarly activities related to the effort proposed.

Bibliography & References Cited (Field 8 on the form)

Provide a bibliography of any references cited in the Project Narrative. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. Include only bibliographic citations. Applicants should be especially careful to follow scholarly practices in providing citations for source materials relied upon when preparing any section of the application. In order to reduce the number of files attached to your application, please provide the Bibliography and References Cited information as an appendix to your project narrative. Do not attach a file in field 8. This appendix will not count in the project narrative page limitation.

Facilities & Other Resources (Field 9 on the form)

This information is used to assess the capability of the organizational resources, including subawardee resources, available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Describe other resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. In order to reduce the number of files attached to your application, please provide the Facility and Other Resource information as an appendix to your project narrative. Do not attach a file in field 9. This appendix will not count in the project narrative page limitation.

Equipment (Field 10 on the form)

List major items of equipment already available for this project and, if appropriate identify location and pertinent capabilities. In order to reduce the number of files attached to your application, please provide the Equipment information as an appendix to your project narrative. Do not attach a file in field 10. This appendix will not count in the project narrative page limitation.

Other Attachments (Field 11 on the form):

If you need to elaborate on your responses to questions 1-5 on the “Other Project Information” document, attach a file in field 11.

Also, attach the following files:

Commitment Letters from Third Parties Contributing to Cost Sharing

If a third party, (i.e., a party other than the organization submitting the application) proposes to provide all or part of the required cost sharing, the applicant must include a letter from the third party stating that it is committed to providing a specific minimum dollar amount of cost sharing. The letter should also identify the proposed cost sharing (e.g., cash, services, and/or property) to be contributed. Letters must be signed by the person authorized to commit the expenditure of funds by the entity and be provided in a PDF format. Save this information in a single file named “CLTP.pdf” and click on “Add Attachments” in Field 11 to attach.

Budget for DOE/NNSA Federally Funded Research and Development Center (FFRDC) Contractor, if applicable. If a DOE/NNSA FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at <http://grants.pr.doe.gov>. Use the FFRDC name as the file name (up to 10 letters) and attach to the R&R Other Project Information form in Field 11 – Add Attachments.

3. RESEARCH AND RELATED BUDGET (TOTAL FED + NON-FED)

Complete the Research and Related Budget (Total Fed & Non-Fed) form in accordance with the instructions on the form (Activate Help Mode to see instructions) and the

following instructions. You must complete a separate budget for each year of support requested. The form will generate a cumulative budget for the total project period. You must complete all the mandatory information on the form before the NEXT PERIOD button is activated. You may request funds under any of the categories listed as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV. G).

Budget Justification (Field K on the form).

Provide the required supporting information (See R&R instructions) for the following costs: equipment; domestic and foreign travel; participant/trainees; material and supplies; publication; consultant services; ADP/computer services; subaward/consortium/contractual; equipment or facility rental/user fees; alterations and renovations; and indirect cost type. Provide any other information you wish to submit to justify your budget request. If cost sharing is required, provide an explanation of the source, nature, amount, and availability of any proposed cost sharing. Attach a single budget justification file for the entire project period in Field K. The file automatically carries over to each budget year.

4. R&R SUBAWARD (Total Fed + Non-Fed) FORM.

Budgets for Subawardees, other than DOE FFRDC Contractors. You must provide a separate cumulative R&R budget for each subawardee that is expected to perform work estimated to be more than \$100,000 or 50 percent of the total work effort (whichever is less). If you are selected for award, you must submit a multi-year budget for each of these subawardee (See Section IV.D for submission of Subawardees' multi-year budgets). Download the R&R Budget Attachment from the R&R SUBAWARD BUDGET (Total Fed + Non-Fed) FORM and e-mail it to each subawardee that is required to submit a separate budget. Note: Subawardees must have installed PureEdge Viewer before they can complete the form. After the Subawardee has e-mailed its completed budget back to you, attach it to one of the blocks provided on the form. Use up to 10 letters of the subawardee's name (plus .xfd) as the file name (e.g., ucla.xfd or energyres.xfd). If you are selected for award, you must submit a multi-year budget for each of these subawardees (see Section IV D for submission of Subawardees' multi-year budgets).

5. Disclosure of Lobbying Activities (SF-LLL)

If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files

–Your application must include the following documents:

Name of Document	Format	Attach to
SF 424 (R&R)	PureEdge Form	N/A
RESEARCH AND RELATED Other Project Information	PureEdge Form	N/A
Project Summary/Abstract	PDF	Field 6
Project Narrative, including required appendices (Project Performance Site, Biographical Sketch Appendix, Bibliography & References Cited, Facilities & Other Resources, and Equipment)	PDF	Field 7
Commitment Letters from Third Parties Contributing to Cost Sharing	PDF	Field 11
Budget for DOE/NNSA FFRDC, if applicable	PDF	Field 11
RESEARCH & RELATED BUDGET (TOTAL FED + NON-FED)	PureEdge Form	N/A
Budget Justification	PDF	Field K
R&R SUBAWARD BUDGET , if applicable	PureEdge Form	N/A
SF-LLL Disclosure of lobbying Activities , if applicable	PureEdge Form	N/A

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

- The Department anticipates that no additional submissions will be required. However, it reserves the right to request additional or clarifying information for any reason deemed necessary.
- Successful applicants must submit the information listed below no later than 14 calendars days after notification of selection. Applicants who fail to provide the information within the required time period may be eliminated from further consideration.

What to submit	Required Form or Format
Designated Responsible Employee for complying with national policies prohibiting discrimination. Provide organization name, project title, DOE application tracking number, and the name, title, and phone number of Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5).	No special format. E-mail information to: theresa.hafer@netl.doe.gov
Environmental Questionnaire. You must complete and submit an environmental questionnaire.	This form is available at: http://www.netl.doe.gov/business/forms/451_1-1-3.doc E-mail questionnaire to: theresa.hafer@netl.doe.gov
Representation of Limited Rights Data and Restricted Software.	Use form on Applicant and Recipient Page at http://grants.pr.doe.gov . Send this representation to theresa.hafer@netl.doe.gov

E. SUBMISSION DATE AND TIMES

1. Pre-application Due Date.

Pre-applications are not required.

2. Application Due Date.

Applications must be received by **June 27, 2006, not later than 8:00 PM Eastern Time.** You are encouraged to transmit your application well before the deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

F. GOVERNMENTAL REVIEW

- This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. FUNDING RESTRICTIONS

Cost Principles Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600.

Pre-award Costs Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the contracting officer for any pre-award costs that are for periods greater than this

90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit.

- **APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD.** Submit electronic applications through the "Apply for Grants" function at www.Grants.gov. If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to support@grants.gov.

2. Registration Process.

- You must COMPLETE the one-time registration process (all steps) before you can submit your first application through Grants.gov (See www.grants.gov/GetStarted). **We recommend that you start this process at least two weeks before the application due date.** It may take 14 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at <http://www.grants.gov/assets/OrganizationRegCheck.doc> to guide you through the process. **IMPORTANT:** During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called "Marketing Partner identification Number" (MPIN).

Part V - APPLICATION REVIEW INFORMATION

A. CRITERIA.

1. Initial Review Criteria.

- Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the Announcement.

2. Merit Review Criteria.

Applications submitted in response to this Announcement will be evaluated and scored in accordance with the criteria and weights listed below:

2.1 TECHNICAL APPROACH (CRITERION 1) – 30%

- Validity of the proposed approach, the likelihood of success, and the scientific merit of the key technology issues addressed.
- Comprehensiveness of the proposed technical milestones for each interval of the proposed effort with special emphasis on the descriptive, qualitative and especially quantitative, where applicable, milestone aspects. Technical realism and likelihood of success of the proposed technical milestones for each interval of the effort.
- Thoroughness and feasibility of the proposed Statement of Project Objectives (SOPO) and the anticipated outcomes and results.
- The degree to which the proposed technical approach is innovative and its relevance to the stated objectives.

2.2 TECHNOLOGY “VALUE” (CRITERION 2) – 30%

- The extent to which the proposed project will contribute to the eventual achievement of DOE’s SSL mission and/or goal.
- The extent to which the proposed approach will surpass current performance levels in solid-state lighting.
- The extent to which the proposed approach will contribute to multiple SSL technologies or how it may positively impact other DOE energy efficiency objectives (crosscutting).
- The importance of the proposed work and its potential impact on eventual SSL products.
- Feasibility of the proposed work that allows DOE to achieve the SSL goals earlier than planned.

2.3 PROJECT TEAM MEMBERS’ ROLES AND CAPABILITIES (CRITERION 3) – 30%

- Adequacy of the proposed team’s abilities to achieve the objectives proposed in

the SOPO; the level of professional and academic credentials of the proposed team members. Ability of the proposed team to successfully manage project similar in scope and complexity.

- Demonstrated abilities of the PI to successfully perform project management functions on projects similar in complexity and scope and reasonableness of PI's time allotted to fulfill project management requirements.
- Reasonableness of time allocations outlined in the manpower matrix; effectiveness of the proposed roles and responsibilities of outlined personnel in order to accomplish the SOPO.
- The adequacy (quality, availability, and appropriateness) of facilities and equipment to accommodate the proposed project.

2.4 PREVIOUS OR ON-GOING RELATED WORK (CRITERION 4) – 10%

- Linkages to current Federal Programs (i.e., DOE, DARPA, DOD, NIST, etc.) and any leverage that may be relevant.
- Potential benefits of the applicant's corporate commitments or linkages to the SSL industry.

3. Other Selection Factors.

- The selection official will consider the following program policy factors in the selection process:

These factors, while not indicators of the Application's merit, e.g., technical excellence, cost, Applicant's ability, etc., may be essential to the process of selecting the application(s) that, individually or collectively, will best achieve the program objectives. Such factors are often beyond the control of the Applicant. Applicants should recognize that some very good applications may not receive an award because they do not fit within a mix of projects which maximizes the probability of achieving the DOE's overall R&D objectives. Therefore, the following Program Policy Factors may be used by the Selection Official to assist in determining which of the ranked application(s) shall receive DOE funding support.

1. It may be desirable to select for award a group of projects which represents a diversity of technical approaches and methods;
2. It may be desirable to support complementary and/or duplicative efforts or projects, which, when taken together, will best achieve the research goals and objectives;
3. It may be desirable to select different kinds and sizes of organizations in order to provide a balanced programmatic effort and a variety of different technical perspectives;
4. It may be desirable, because of the nature of the energy source, the type of projects envisioned, or limitations of past efforts, to select a group of projects with a broad or specific geographic distribution.

5. It may be desirable to select project(s) of less technical merit than other project(s) if such a selection will optimize use of available funds by allowing more projects to be supported and not be detrimental to the overall objectives of the program.
6. It may be desirable to select project(s) for award based on the Applicant's past Federal Award performance with respect to its potential effect on accomplishment of portfolio goals.
7. It may be desirable to select project(s) that reduce Federal investment and maximize corporate commitment as demonstrated by cost share levels that exceed the required 20%.

The above factors will be independently considered by the Selection Official in determining the optimum mix of applications that will be selected for support. These policy factors will provide the Selection Official with the capability of developing, from the competitive funding opportunity, a broad involvement of organizations and organizational ideas, which will both enhance the overall technology research effort and upgrade the program content to meet the goals of the DOE.

B. REVIEW AND SELECTION PROCESS.

1. Merit Review.

- Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is available under Financial Assistance, Regulations and Guidance at <http://professionals.pr.doe.gov/ma5/ma-5web.nsf/?Open>.

2. Selection.

- The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available.

3. Discussions and Award.

- The Government may enter into discussions with a selected applicant for any reason deemed necessary, including but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES.

- DOE anticipates notifying applicants selected for award by the end of October 2006 and making awards by the end of December 2006.

Part VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES.

1. Notice of Selection.

- DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.G with respect to the allowability of pre-award costs.)

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award.

- A Notice of Financial Assistance Award issued by the contracting officer is the authorizing award document. It normally includes either as an attachment or by reference: (1). Special Terms and Conditions; (2). Applicable program regulations, if any; (3). Application as approved by DOE/NNSA.; (4). DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; (5). National Policy Assurances To Be Incorporated As Award Terms; (6). Budget Summary; and (7). Federal Assistance Reporting Checklist, which identifies the reporting requirements.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS.

1. Administrative Requirements.

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: <http://ecfr.gpoaccess.gov>), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

2. Special Terms and Conditions and National Policy Requirements.

Special Terms and Conditions and National Policy Requirements.

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at <http://grants.pr.doe.gov>. The National Policy Assurances To Be Incorporated As Award Terms are located at <http://grants.pr.doe.gov>.

Intellectual Property Provisions.

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/techtrans/sipp_matrix.html.

Statement of Substantial Involvement.

This statement may be modified to fit specific projects.

RECIPIENT'S RESPONSIBILITIES. The Recipient is responsible for:

Performing the activities supported by this award, including providing the required personnel, facilities, equipment, supplies and services;

Defining approaches and plans, submitting the plans to DOE for review, and incorporating DOE comments;

Managing and conducting the project activities;

Providing all deliverables specified in the award in a timely basis;

Participating in all briefings specified in the award Statement of Project Objectives;

Submitting technical reports and incorporating DOE comments; and;

Presenting the project results at appropriate technical conferences or meetings as directed by the DOE Project Officer.

DOE RESPONSIBILITIES. DOE is responsible for:

Reviewing in a timely manner project plans and recommends alternative approaches if the plans do not address critical programmatic issues;

Collaborate with recipient in the development of a test plan; in an effort to enhance performance monitoring capabilities, NETL will establish a set of measurement guidelines that will allow reliable and consistent performance monitoring data between SSL research activities.

Monitoring to recommend alternative approaches to the work because of interrelationships with other projects.

Reviewing in a timely manner, technical reports and other deliverables and providing comments to the Recipient;

Conducting program review meetings to ensure adequate progress and that the work accomplishes the program and project objectives. Recommend alternative approaches to the work or shifting work emphasis, if needed;

Promoting and facilitating technology transfer activities, including disseminating program results through presentations and publications; and

Serving as scientific/technical liaison between awardees and other program or industry staff.

C. REPORTING.

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. See the NETL Business Page at <http://www.netl.doe.gov/business/forms/FederalAssistanceReportingChecklistExample> for the proposed Checklist for this program.

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS.

Questions regarding the content of the announcement must be submitted through the "Submit Question" feature of the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov>. Locate the program announcement on IIPS and then click on the "Submit Question" button. Enter required information. You will receive an electronic notification that your question has been answered. DOE/NNSA will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE/NNSA cannot answer these questions.

B. AGENCY CONTACT.

Name:	Theresa S. Hafer
E-mail:	theresa.hafer@netl.doe.gov

PART VIII - OTHER INFORMATION

A. MODIFICATIONS.

Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an email when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE.

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS.

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. PROPRIETARY APPLICATION INFORMATION.

Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

"The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government's right to use or disclose data obtained without restriction from any source, including the applicant."

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL.

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application.

Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM.

Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See "Notice of Right to Request Patent Waiver" in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to insure the commercialization of technology developed under a DOE agreement.

G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER.

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. EXCEPTIONAL CIRCUMSTANCES

Regarding any award made to domestic small businesses, institutions of higher education, or other non-profit organizations under this announcement, the Department of Energy has approved a determination titled "Exceptional Circumstances Determination for Inventions Arising Under the Solid-State Lighting Core Technologies Program." This Determination is based on the Department's belief that circumstances surrounding the Solid-State Lighting Core Technologies Program are exceptional and justify modified intellectual property arrangements as allowed by the Bayh-Dole Act (35 U.S.C. 202(a)(ii)). More detailed information about the Exceptional Circumstances Determination can be found at

http://www.netl.doe.gov/ssl/PDFs/SSL%20Determination%20-%20Signed%20June%202005_1.pdf

The Department of Energy intends that disposition of rights to subject inventions made by domestic small businesses and non-profit entities under awards resulting from this announcement will be subject to the terms of this Determination. The restriction of patent rights under the Determination will be basically as described in the last paragraph of Part VIII.F above. The Department is requiring minimum licensing rights that the Core Technology Program recipients will have to agree to. In addition, under 35 U.S.C. § 203(2),

an awardee adversely affected by this exceptional circumstance determination has a right to appeal the determination to the Department of Energy or to the United States Court of Federal Claims.

I. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES.

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.